

## **AMENDMENTS TO THE CLAIMS**

### **LISTING OF CLAIMS:**

Claim 1. (Currently amended) An enzyme comprising a recombinant polypeptide containing an amino acid sequence selected from the group consisting of SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, and amino acid sequences with at least 80% identity to SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7 or SEQ ID NO: 8 ~~which contain addition, insertion, deletion and/or substitution of one or more amino acid residues in said sequence~~, said recombinant polypeptide having alcohol and aldehyde dehydrogenase activity.

Claim 2. (Currently amended) An enzyme of claim 1, wherein the recombinant polypeptide is a chimeric polypeptide including a combination of at least two amino acid sequences each of said sequences being selected from the group consisting of SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, and amino acid sequences with at least 80% identity to SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7 or SEQ ID NO: 8, said recombinant polypeptide having alcohol and aldehyde dehydrogenase activity ~~which contain addition, insertion, deletion and/or substitution of one or more amino acid residues in said sequence~~.

Claim 3. (Currently amended) An enzyme of claim 1, wherein the enzyme includes at least two recombinant polypeptides in the form of ~~at least one of a~~ homodimer or ~~and~~ a heterodimer.

Claims 4-8 (Cancelled).

Claim 9. (Currently amended) An enzyme produced by encoded by  
at least one DNA molecule of a recombinant expression vector selected from the group  
consisting of pSSA102R, pSSA'101R, pSSA"102, pSSB103R, pSSAP-B, pSSA/B101R,  
pSSA/B102R, pSSA/B103R, pSSB/A101R, pSSB/A102R, pSSB/A103R, pSSsA2,  
pSSsA21, PSSsA22 and PSSsB of claim 8.

Claims 10-19 (Cancelled).

Claim 20. (Original) A process for producing an aldehyde product from  
a substrate which comprises incubating a reaction mixture containing an enzyme of  
claim 1 and said substrate wherein said substrate is selected from the group consisting  
of n-propanol, isopropanol, D-sorbitol and D-mannitol, and recovering the aldehyde  
product.

Claim 21. (Original) A process for producing a ketone product from a  
substrate which comprises incubating a reaction mixture containing an enzyme of claim  
1 and said substrate wherein said substrate is selected from the group consisting of n-  
propanol, isopropanol, D-sorbitol and D-mannitol, and recovering the ketone product.

Claim 22. (Original) A process for producing a carboxylic acid product from a substrate which comprises incubating a reaction mixture containing an enzyme of claim 1 and said substrate wherein said substrate is selected from the group consisting of L-sorbose, D-glucose, D-fructose and L-sorbose, and recovering the carboxylic acid product.

Claims 23-24 (Cancelled).

Claim 25. (Currently amended) A process for producing 2-keto-L-gulonic acid which comprises:

(a) incubating a reaction mixture containing a substrate selected from the group consisting of D-sorbitol and L-sorbose, and a recombinant enzyme including a recombinant polypeptide containing an amino acid sequence selected from the group consisting of SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, and amino acid sequences with at least 80% identity to SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7 or SEQ ID NO: 8 ~~which contain addition, insertion, deletion and/or substitution of one or more amino acid residues in said sequence~~, said recombinant polypeptide having alcohol and aldehyde dehydrogenase activity, and

(b) converting the substrate to 2-keto-L-gulonic acid.

Claims 26-27 (Cancelled).

Claim 28. (Original) A process for the production of L-ascorbic acid from 2-keto-L-gulonic acid comprising obtaining 2-keto-L-gulonic acid by a process of claim 25 and transforming the 2-keto-L-gulonic acid into L-ascorbic acid.

Claim 29. (New) An enzyme according to claim 1 wherein the amino acid sequence is selected from the group consisting of SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7 and SEQ ID NO: 8.

Claim 30. (New) An enzyme encoded by a recombinant expression vector comprising a DNA sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, and DNA sequences which encode a polypeptide with at least 80% identity to SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7 or SEQ ID NO: 8, wherein the DNA sequence is functionally linked to one or more genetic control sequences and is capable of expression of an enzyme including at least one recombinant polypeptide having alcohol and aldehyde dehydrogenase activity.

Claim 31. (New) An enzyme encoded by a recombinant expression vector comprising a DNA sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, and DNA sequences which encode a polypeptide with at least 80% identity to SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7 or SEQ ID NO: 8, and having alcohol and aldehyde dehydrogenase activity.